

## Załącznik nr 1 SIWZ – SOPZ – (Wydajność procesorów)

Procesory do komputerów i ich wydajność – stan na dzień 29 sierpnia 2019 r.

Źródło: [https://www.cpubenchmark.net/high\\_end\\_cpus.html](https://www.cpubenchmark.net/high_end_cpus.html).

PassMark - CPU Mark, High End CPUs - Updated 29th of August 2019

Processor	CPU Mark
Intel Xeon W-3175X @ 3.10GHz	33,538
AMD Ryzen 9 3900X	31,836
Intel Core i9-9980XE @ 3.00GHz	29,835
Intel Xeon Platinum 8168 @ 2.70GHz	29,131
Intel Xeon Platinum 8173M @ 2.00GHz	28,86
Intel Core i9-9960X @ 3.10GHz	28,107
Intel Xeon Platinum 8175M @ 2.50GHz	28,103
Intel Core i9-7980XE @ 2.60GHz	27,736
Intel Xeon Gold 6154 @ 3.00GHz	27,722
Intel Core i9-9940X @ 3.30GHz	27,133
Intel Xeon Platinum 8124M @ 3.00GHz	26,835
Intel Core i9-7960X @ 2.80GHz	26,023
Intel Xeon Gold 6138 @ 2.00GHz	25,774
AMD Ryzen Threadripper 2950X	25,547
Intel Xeon Gold 6148 @ 2.40GHz	25,44
Intel Core i9-9920X @ 3.50GHz	25,396
Intel Core i9-7940X @ 3.10GHz	25,364
Intel Xeon Gold 6242 @ 2.80GHz	25,313
Intel Xeon E5-2679 v4 @ 2.50GHz	25,266
Intel Xeon Gold 6146 @ 3.20GHz	25,142
Intel Xeon Gold 6230 @ 2.10GHz	24,6
AMD Ryzen 7 3800X	24,584
Intel Xeon W-2175 @ 2.50GHz	24,454
Intel Xeon Platinum 8176 @ 2.10GHz	24,434
Intel Xeon W-2195 @ 2.30GHz	24,081
Intel Xeon Gold 6140 @ 2.30GHz	23,964
Intel Xeon Gold 6132 @ 2.60GHz	23,907
AMD Ryzen 7 3700X	23,879
Intel Xeon Gold 6152 @ 2.10GHz	23,498
Intel Xeon E5-2699 v4 @ 2.20GHz	23,435
Intel Core i9-7920X @ 2.90GHz	23,343
AMD Ryzen Threadripper 2990WX	23,071
Intel Core i9-9900X @ 3.50GHz	23,01
Intel Xeon E5-2696 v3 @ 2.30GHz	22,48
Intel Xeon E5-2697A v4 @ 2.60GHz	22,462
Intel Xeon E5-2699 v3 @ 2.30GHz	22,375
AMD Ryzen Threadripper 2920X	22,142
AMD EPYC 7371	22,071
Intel Core i9-7900X @ 3.30GHz	21,883
AMD Ryzen Threadripper 2970WX	21,846

Processor	CPU Mark
Intel Xeon E5-2698 v4 @ 2.20GHz	21,836
Intel Xeon W-2155 @ 3.30GHz	21,832
AMD Ryzen Threadripper 1950X	21,822
Intel Core i9-9820X @ 3.30GHz	21,642
Intel Xeon W-2150B @ 3.00GHz	21,543
Intel Xeon E5-2697 v4 @ 2.30GHz	21,506
Intel Xeon E5-2673 v4 @ 2.30GHz	21,474
Intel Xeon E5-2697 v3 @ 2.60GHz	21,402
Intel Xeon E5-2690 v4 @ 2.60GHz	21,326
Intel Xeon E5-2696 v4 @ 2.20GHz	21,226
Intel Xeon Gold 6136 @ 3.00GHz	21,061
Intel Xeon E5-2698 v3 @ 2.30GHz	21,042
AMD Ryzen 5 PRO 3600	21,037
AMD Ryzen 5 3600X	20,501
Intel Core i9-9900KF @ 3.60GHz	20,452
Intel Xeon E5-2682 v4 @ 2.50GHz	20,42
Intel Core i7-7900X @ 3.30GHz	20,406
Intel Xeon E5-2695 v4 @ 2.10GHz	20,258
Intel Core i9-9900K @ 3.60GHz	20,217
AMD Ryzen 5 3600	19,984
Intel Core i7-6950X @ 3.00GHz	19,923
Intel Xeon E5-2680 v4 @ 2.40GHz	19,886
Intel Xeon E5-2687W v4 @ 3.00GHz	19,855
Intel Xeon E5-2686 v4 @ 2.30GHz	19,801
Intel Core i7-9800X @ 3.80GHz	19,777
AMD Ryzen Threadripper 1920X	19,766
Intel Xeon E5-2689 v4 @ 3.10GHz	19,744
Intel Xeon Gold 6126 @ 2.60GHz	19,711
Intel Xeon E5-2695 v3 @ 2.30GHz	19,71
Intel Xeon W-2145 @ 3.70GHz	19,703
Intel Xeon Gold 6144 @ 3.50GHz	19,654
Intel Xeon Gold 6130 @ 2.10GHz	19,643
AMD EPYC 7401P	19,555
Intel Xeon D-2183IT @ 2.20GHz	19,381
Intel Xeon E5-2686 v3 @ 2.00GHz	19,255
Intel Xeon E5-2690 v3 @ 2.60GHz	19,249
AMD Ryzen Threadripper 2990X	19,227
Intel Xeon E5-2683 v4 @ 2.10GHz	19,047
AMD EPYC 7501	18,942
Intel Core i9-9900 @ 3.10GHz	18,94
Intel Xeon W-2140B @ 3.20GHz	18,61

## Załącznik nr 1 SIWZ – SOPZ – (Wydajność procesorów)

Procesory do komputerów i ich wydajność – stan na dzień 29 sierpnia 2019 r.

Źródło: [https://www.cpubenchmark.net/high\\_end\\_cpus.html](https://www.cpubenchmark.net/high_end_cpus.html).

PassMark - CPU Mark, High End CPUs - Updated 29th of August 2019

Processor	CPU Mark
Intel Core i7-7820X @ 3.60GHz	18,494
Intel Xeon E5-2680 v3 @ 2.50GHz	18,487
AMD EPYC 7551	18,483
Intel Xeon E-2286M @ 2.40GHz	18,421
AMD EPYC 7551P	18,406
Intel Xeon E5-1681 v3 @ 2.90GHz	18,238
Intel Xeon Gold 5120T @ 2.20GHz	18,145
Intel Xeon Gold 6134 @ 3.20GHz	18,083
AMD EPYC 7351	18,081
Intel Xeon E5-2687W v3 @ 3.10GHz	17,754
Intel Core i9-9980HK @ 2.40GHz	17,72
Intel Xeon E5-2676 v3 @ 2.40GHz	17,67
Intel Core i7-6900K @ 3.20GHz	17,65
Intel Xeon E5-2683 v3 @ 2.00GHz	17,369
Intel Core i7-9700KF @ 3.60GHz	17,272
Intel Xeon E5-2697 v2 @ 2.70GHz	17,229
Intel Core i7-9700K @ 3.60GHz	17,216
AMD Ryzen 7 PRO 2700X	17,161
Intel Xeon E5-1680 v4 @ 3.40GHz	17,122
AMD Ryzen 7 2700X	16,954
Intel Xeon E5-2678 v3 @ 2.50GHz	16,9
Intel Xeon E5-2660 v4 @ 2.00GHz	16,88
Intel Xeon E5-2658 v4 @ 2.30GHz	16,754
Intel Core i9-9880H @ 2.30GHz	16,743
Intel Core i7-8086K @ 4.00GHz	16,712
Intel Xeon E5-2667 v4 @ 3.20GHz	16,684
Intel Xeon Gold 5117 @ 2.00GHz	16,672
Intel Xeon E-2246G @ 3.60GHz	16,667
Intel Xeon E5-2696 v2 @ 2.50GHz	16,62
Intel Xeon E5-2670 v3 @ 2.30GHz	16,494
Intel Core i7-9700F @ 3.00GHz	16,472
Intel Xeon E5-2690 v2 @ 3.00GHz	16,466
Intel Xeon E5-2687W v2 @ 3.40GHz	16,437
Intel Core i7-9700 @ 3.00GHz	16,411
Intel Xeon Gold 5118 @ 2.30GHz	16,389
Intel Xeon E5-1680 v3 @ 3.20GHz	16,389
Intel Xeon E5-2673 v3 @ 2.40GHz	16,383
Intel Xeon E5-2673 v2 @ 3.30GHz	16,32
Intel Xeon Gold 5120 @ 2.20GHz	16,308
Intel Xeon E5-2658 v3 @ 2.20GHz	16,298
Intel Xeon W-2135 @ 3.70GHz	16,275

Processor	CPU Mark
Intel Xeon E5-1680 v2 @ 3.00GHz	16,222
Intel Xeon E5-2660 v3 @ 2.60GHz	16,213
Intel Xeon E5-1660 v4 @ 3.20GHz	16,203
Intel Xeon E5-2667 v2 @ 3.30GHz	16,158
Intel Xeon E5-2667 v3 @ 3.20GHz	16,134
AMD Ryzen Threadripper 1900X	16,062
Intel Xeon E5-2692 v2 @ 2.20GHz	16,018
Intel Xeon E-2186G @ 3.80GHz	16,017
Intel Xeon E5-2695 v2 @ 2.40GHz	15,993
Intel Xeon Silver 4210 @ 2.20GHz	15,974
Intel Core i7-8700K @ 3.70GHz	15,964
Intel Core i7-5960X @ 3.00GHz	15,934
Intel Xeon E5-4657L v2 @ 2.40GHz	15,896
Intel Xeon E5-2680 v2 @ 2.80GHz	15,896
Intel Xeon E5-2650 v4 @ 2.20GHz	15,867
Intel Xeon E5-4660 v3 @ 2.10GHz	15,849
Intel Xeon E-2136 @ 3.30GHz	15,763
Intel Xeon E-2146G @ 3.50GHz	15,593
Intel Xeon E-2176G @ 3.70GHz	15,58
Intel Xeon E5-4627 v4 @ 2.60GHz	15,516
Intel Xeon Silver 4215 @ 2.50GHz	15,44
AMD Ryzen 7 1800X	15,422
AMD Ryzen 7 PRO 2700	15,406
Intel Xeon Silver 4116 @ 2.10GHz	15,397
Intel Xeon E5-2640 v4 @ 2.40GHz	15,38
AMD Ryzen 7 PRO 1700X	15,324
Intel Xeon E-2276M @ 2.80GHz	15,288
Intel Xeon Silver 4123 @ 3.00GHz	15,185
Intel Core i7-8700 @ 3.20GHz	15,16
Intel Xeon E5-2675 v3 @ 1.80GHz	15,073
Intel Xeon E5-2685 v3 @ 2.60GHz	15,004
AMD Ryzen 7 2700	15
Intel Xeon E5-2670 v2 @ 2.50GHz	14,988
AMD EPYC 7301	14,978
Intel Xeon Gold 6128 @ 3.40GHz	14,941
AMD EPYC 7351P	14,887
Intel Xeon E5-2650 v3 @ 2.30GHz	14,844
Intel Core i7-8700B @ 3.20GHz	14,802
AMD Ryzen 7 1700X	14,68
Intel Xeon E5-2649 v3 @ 2.30GHz	14,677
Intel Core i7-7800X @ 3.50GHz	14,616

## Załącznik nr 1 SIWZ – SOPZ – (Wydajność procesorów)

Procesory do komputerów i ich wydajność – stan na dzień 29 sierpnia 2019 r.

Źródło: [https://www.cpubenchmark.net/high\\_end\\_cpus.html](https://www.cpubenchmark.net/high_end_cpus.html).

PassMark - CPU Mark, High End CPUs - Updated 29th of August 2019

Processor	CPU Mark
Intel Xeon E5-1660 v3 @ 3.00GHz	14,609
Intel Xeon E5-2618L v4 @ 2.20GHz	14,572
Intel Xeon E-2186M @ 2.90GHz	14,569
Intel Xeon E5-4627 v3 @ 2.60GHz	14,489
Intel Xeon D-1567 @ 2.10GHz	14,482
Intel Xeon W-2133 @ 3.60GHz	14,379
Intel Core i7-6850K @ 3.60GHz	14,376
AMD Ryzen 5 2600X	14,362
Intel Xeon E5-2687W @ 3.10GHz	14,347
Intel Xeon Silver 4114 @ 2.20GHz	14,314
Intel Core i7-9850H @ 2.60GHz	14,289
Intel Core i9-8950HK @ 2.90GHz	14,263
Intel Xeon E5-1650 v4 @ 3.60GHz	14,221
AMD Ryzen 5 PRO 2600	14,221
AMD Ryzen 7 PRO 1700	14,112
Intel Xeon E5-2650L v4 @ 1.70GHz	14,093
Intel Xeon D-1587 @ 1.70GHz	14,049
Intel Xeon E-2126G @ 3.30GHz	13,995
Intel Xeon E5-2663 v3 @ 2.80GHz	13,994
Intel Xeon E5-2630 v4 @ 2.20GHz	13,901
Intel Xeon E5-2640 v3 @ 2.60GHz	13,893
Intel Xeon E5-2643 v3 @ 3.40GHz	13,887
Intel Xeon E5-2658 v2 @ 2.40GHz	13,874
Intel Xeon D-2143IT @ 2.20GHz	13,816
Intel Xeon E5-1660 v2 @ 3.70GHz	13,808
Intel Core i7-4960X @ 3.60GHz	13,796
AMD Ryzen 7 1700	13,772
Intel Core i5-9600KF @ 3.70GHz	13,708
Intel Core i7-9750H @ 2.60GHz	13,691
Intel Core i7-9700T @ 2.00GHz	13,665
Intel Xeon E5-2648L v4 @ 1.80GHz	13,654
Intel Xeon E5-4669 v4 @ 2.20GHz	13,626
Intel Xeon E5-1650 v3 @ 3.50GHz	13,625
Intel Core i7-5930K @ 3.50GHz	13,621
Intel Xeon E-2176M @ 2.70GHz	13,581
Intel Core i7-6800K @ 3.40GHz	13,563
Intel Core i5-9600K @ 3.70GHz	13,525
Intel Xeon E5-2650L v3 @ 1.80GHz	13,513
AMD Ryzen 5 2600	13,498
Intel Xeon E5-2690 @ 2.90GHz	13,497
Intel Xeon E5-2643 v4 @ 3.40GHz	13,475

Processor	CPU Mark
Intel Xeon E5-2689 @ 2.60GHz	13,386
Intel Xeon E5-2650 v2 @ 2.60GHz	13,215
AMD Ryzen 5 1600X	13,201
Intel Xeon E5-2660 v2 @ 2.20GHz	13,186
Intel Xeon E5-2643 v2 @ 3.50GHz	13,117
Intel Xeon Silver 4208 @ 2.10GHz	13,116
Intel Xeon E5-2628L v4 @ 1.90GHz	13,101
Intel Core i7-8850H @ 2.60GHz	13,029
Intel Core i7-4930K @ 3.40GHz	13,006
Intel Core i7-5820K @ 3.30GHz	12,973
Intel Xeon E5-2630L v4 @ 1.80GHz	12,847
Intel Xeon D-2141I @ 2.20GHz	12,836
Intel Xeon E5-2630 v3 @ 2.40GHz	12,795
Intel Core i5-8500B @ 3.00GHz	12,756
Intel Core i5-8600K @ 3.60GHz	12,756
Intel Xeon E5-1650 v2 @ 3.50GHz	12,735
Intel Core i7-8700T @ 2.40GHz	12,719
Intel Xeon E5-4640 v3 @ 1.90GHz	12,703
Intel Core i7-3970X @ 3.50GHz	12,677
Intel Core i5-8600 @ 3.10GHz	12,618
Intel Core i7-3960X @ 3.30GHz	12,581
Intel Xeon E5-2680 @ 2.70GHz	12,447
Intel Core i7-8750H @ 2.20GHz	12,442
Intel Xeon E5-1660 @ 3.30GHz	12,36
Intel Xeon W-2125 @ 4.00GHz	12,354
Intel Core i7-8559U @ 2.70GHz	12,328
Intel Xeon E5-2628L v3 @ 2.00GHz	12,295
Intel Xeon E5-4655 v3 @ 2.90GHz	12,292
AMD Ryzen 5 1600	12,287
Intel Xeon E-2174G @ 3.80GHz	12,279
Intel Core i7-7740X @ 4.30GHz	12,259
AMD Ryzen 5 PRO 1600	12,213
Intel Xeon E5-2618L v3 @ 2.30GHz	12,186
Intel Core i5-9400F @ 2.90GHz	12,132
Intel Xeon E5-2670 @ 2.60GHz	12,063
Intel Core i7-7700K @ 4.20GHz	12,031
Intel Core i7-3930K @ 3.20GHz	11,979
Intel Xeon E3-1285 v6 @ 4.10GHz	11,955
Intel Core i5-8500 @ 3.00GHz	11,898
Intel Core i5-9400 @ 2.90GHz	11,888
Intel Core i5-9500 @ 3.00GHz	11,887

## Załącznik nr 1 SIWZ – SOPZ – (Wydajność procesorów)

Procesory do komputerów i ich wydajność – stan na dzień 29 sierpnia 2019 r.

Źródło: [https://www.cpubenchmark.net/high\\_end\\_cpus.html](https://www.cpubenchmark.net/high_end_cpus.html).

PassMark - CPU Mark, High End CPUs - Updated 29th of August 2019

Processor	CPU Mark
Intel Xeon E5-4650 @ 2.70GHz	11,86
Intel Xeon E5-4650L @ 2.60GHz	11,821
AMD EPYC 7251 8-Core	11,811
Intel Xeon E5-1650 @ 3.20GHz	11,716
Intel Xeon Silver 4110 @ 2.10GHz	11,685
Intel Core i5-8400 @ 2.80GHz	11,649
Intel Xeon E5-2665 @ 2.40GHz	11,525
Intel Xeon E-2144G @ 3.60GHz	11,466
Intel Xeon E3-1280 v6 @ 3.90GHz	11,463
Intel Xeon E5-2648L v3 @ 1.80GHz	11,392
Intel Xeon E5-2648L v2 @ 1.90GHz	11,381
Intel Xeon E5-2620 v4 @ 2.10GHz	11,354
Intel Xeon @ 2.00GHz	11,327
Intel Xeon E5-2651 v2 @ 1.80GHz	11,302
Intel Xeon E5-2470 v2 @ 2.40GHz	11,268
Intel Xeon E3-1270 v6 @ 3.80GHz	11,222
Intel Core i7-4790K @ 4.00GHz	11,169
Intel Core i7-6700K @ 4.00GHz	11,11
Intel Xeon E5-4648 v3 @ 1.70GHz	11,097
Intel Xeon D-1541 @ 2.10GHz	11,064
Intel Xeon E5-2660 @ 2.20GHz	11,048
Intel Xeon E5-2629 v3 @ 2.40GHz	11,022
Intel Xeon E3-1275 v6 @ 3.80GHz	11,014
Intel Core i7-8809G @ 3.10GHz	11,01
Intel Core i5-8259U @ 2.30GHz	11,002
Intel Core i5-8600T @ 2.30GHz	10,981
Intel Core i7-5775C @ 3.30GHz	10,976
Intel Xeon D-2146NT @ 2.30GHz	10,968
Intel Xeon E3-1285L v4 @ 3.40GHz	10,961
Intel Xeon D-1557 @ 1.50GHz	10,95
Intel Xeon Silver 4109T @ 2.00GHz	10,946
AMD Opteron 6386 SE	10,912
Intel Xeon Gold 5122 @ 3.60GHz	10,894
Intel Xeon E-2134 @ 3.50GHz	10,882
Intel Core i7-5775R @ 3.30GHz	10,868
Intel Core i7-5950HQ @ 2.90GHz	10,85
Intel Xeon Silver 4108 @ 1.80GHz	10,838
Intel Xeon E3-1585 v5 @ 3.50GHz	10,797
Intel Core i5-9500T @ 2.20GHz	10,743
Intel Core i7-7700 @ 3.60GHz	10,727
Intel Xeon W-2123 @ 3.60GHz	10,691

Processor	CPU Mark
Intel Xeon E3-1270L v4 @ 3.00GHz	10,691
Intel Xeon D-1548 @ 2.00GHz	10,679
Intel Xeon E3-1280 v5 @ 3.70GHz	10,666
Intel Xeon E3-1575M v5 @ 3.00GHz	10,614
Intel Core i5-9400T @ 1.80GHz	10,606
Intel Core i3-9350KF @ 4.00GHz	10,606
Intel Xeon E3-1535M v6 @ 3.10GHz	10,578
Intel Xeon D-1540 @ 2.00GHz	10,573
Intel Core i5-9400H @ 2.50GHz	10,567
Intel Xeon E-2224 @ 3.40GHz	10,525
Intel Xeon E5-4640 @ 2.40GHz	10,523
Intel Xeon E3-1245 v6 @ 3.70GHz	10,515
Intel Xeon E5-2637 v4 @ 3.50GHz	10,512
Intel Xeon E3-1285 v4 @ 3.50GHz	10,51
Intel Core i7-8706G @ 3.10GHz	10,494
Intel Xeon E3-1285 v3 @ 3.60GHz	10,458
Intel Xeon E3-1240 v6 @ 3.70GHz	10,458
Intel Xeon E3-1545M v5 @ 2.90GHz	10,443
Intel Xeon E5-2630 v2 @ 2.60GHz	10,385
Intel Xeon E3-1240 v5 @ 3.50GHz	10,376
Intel Xeon E5-2667 @ 2.90GHz	10,372
Intel Xeon E3-1275 v5 @ 3.60GHz	10,366
Intel Xeon E5-1630 v4 @ 3.70GHz	10,296
Intel Xeon E3-1270 v5 @ 3.60GHz	10,292
Intel Core i7-4980HQ @ 2.80GHz	10,287
Intel Xeon E3-1281 v3 @ 3.70GHz	10,276
Intel Core i5-8400H @ 2.50GHz	10,226
Intel Xeon E3-1260L v5 @ 2.90GHz	10,218
Intel Xeon E5-1630 v3 @ 3.70GHz	10,214
Intel Xeon E5-2640 v2 @ 2.00GHz	10,206
Intel Xeon E3-1276 v3 @ 3.60GHz	10,204
AMD FX-9590 Eight-Core	10,19
Intel Xeon E3-1245 v5 @ 3.50GHz	10,16
Intel Xeon E3-1585L v5 @ 3.00GHz	10,135
AMD Ryzen 5 PRO 1500	10,133
Intel Xeon E5-2637 v3 @ 3.50GHz	10,117
Intel Xeon E5-2650 @ 2.00GHz	10,11
Intel Xeon E5-2450 @ 2.10GHz	10,108
Intel Xeon E3-1271 v3 @ 3.60GHz	10,096
Intel Xeon E3-1515M v5 @ 2.80GHz	10,093
AMD Opteron 6380	10,081

## Załącznik nr 1 SIWZ – SOPZ – (Wydajność procesorów)

Procesory do komputerów i ich wydajność – stan na dzień 29 sierpnia 2019 r.

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PassMark - CPU Mark, High End CPUs - Updated 29th of August 2019

Processor	CPU Mark
Intel Core i7-4770K @ 3.50GHz	10,074
AMD Ryzen 5 1500X	10,074
Intel Xeon E5-2470 @ 2.30GHz	10,061
Intel Core i5-8500T @ 2.10GHz	10,024
Intel Core i3-9300 @ 3.70GHz	10,018
Intel Xeon E3-1241 v3 @ 3.50GHz	10,01
Intel Xeon E5-2620 v3 @ 2.40GHz	10,009
Intel Xeon E-2224G @ 3.50GHz	10,008
Intel Core i7-6700 @ 3.40GHz	10,004
Intel Core i7-7920HQ @ 3.10GHz	9,995
Intel Core i7-4790 @ 3.60GHz	9,988
Intel Xeon E3-1285L v3 @ 3.10GHz	9,981
AMD Ryzen 5 3400G	9,961
Intel Core i7-7820HK @ 2.90GHz	9,958
AMD Ryzen 5 PRO 2400G	9,949
Intel Xeon E5-1620 v4 @ 3.50GHz	9,926
Intel Xeon E3-1270 v3 @ 3.50GHz	9,919
Intel Xeon E3-1275 v3 @ 3.50GHz	9,915
Intel Core i7-8705G @ 3.10GHz	9,911
Intel Xeon E3-1286 v3 @ 3.70GHz	9,899
AMD Ryzen 5 2500X	9,898
Intel Xeon E3-1230 v6 @ 3.50GHz	9,888
Intel Core i7-4940MX @ 3.10GHz	9,885
Intel Xeon E5-2650L v2 @ 1.70GHz	9,88
Intel Xeon E3-1246 v3 @ 3.50GHz	9,863
Intel Core i7-4771 @ 3.50GHz	9,861
Intel Xeon E-2124G @ 3.40GHz	9,856
Intel Core i7-4960HQ @ 2.60GHz	9,846
Intel Core i7-4770R @ 3.20GHz	9,822
Intel Core i7-5850EQ @ 2.70GHz	9,817
Intel Core i7-995X @ 3.60GHz	9,791
AMD Opteron 6287 SE	9,789
Intel Core i7-8709G @ 3.10GHz	9,78
Intel Core i7-4770 @ 3.40GHz	9,778
Intel Xeon E3-1280 v3 @ 3.60GHz	9,769
Intel Xeon E5-1620 v3 @ 3.50GHz	9,745
Intel Core i7-6770HQ @ 2.60GHz	9,728
Intel Xeon E5-2630L v3 @ 1.80GHz	9,727
Intel Xeon E3-1230 v5 @ 3.40GHz	9,725
Intel Xeon E3-1505M v6 @ 3.00GHz	9,716
Intel Core i7-4820K @ 3.70GHz	9,709

Processor	CPU Mark
Intel Xeon E3-1290 V2 @ 3.70GHz	9,709
Intel Core i5-9300H @ 2.40GHz	9,673
Intel Xeon E3-1240 v3 @ 3.40GHz	9,665
Intel Xeon D-1531 @ 2.20GHz	9,643
AMD EPYC 3201	9,634
Intel Xeon E3-1231 v3 @ 3.40GHz	9,622
Intel Xeon E3-1245 v3 @ 3.40GHz	9,573
Intel Core i7-6920HQ @ 2.90GHz	9,564
Intel Core i7-4790S @ 3.20GHz	9,562
Intel Core i5-7640X @ 4.00GHz	9,545
Intel Core i5-8400T @ 1.70GHz	9,543
Intel Core i7-3770K @ 3.50GHz	9,506
Intel Xeon E5-1620 v2 @ 3.70GHz	9,497
Intel Xeon E3-1286L v3 @ 3.20GHz	9,495
Intel Xeon E-2124 @ 3.30GHz	9,489
Intel Core i5-8300H @ 2.30GHz	9,488
Intel Xeon E5-2658 @ 2.10GHz	9,484
Intel Core i7-4930MX @ 3.00GHz	9,481
Intel Core i7-5850HQ @ 2.70GHz	9,459
Intel Xeon E3-1270 V2 @ 3.50GHz	9,453
Intel Xeon E3-1280 V2 @ 3.60GHz	9,447
AMD FX-9370 Eight-Core	9,441
Intel Xeon E3-1275 V2 @ 3.50GHz	9,433
Intel Xeon E5-2628L v2 @ 1.90GHz	9,405
Intel Xeon E5-2640 @ 2.50GHz	9,361
Intel Core i7-4870HQ @ 2.50GHz	9,351
Intel Core i7-4770S @ 3.10GHz	9,351
Intel Xeon E3-1535M v5 @ 2.90GHz	9,345
Intel Core i7-4910MQ @ 2.90GHz	9,332
AMD Ryzen 5 2400G	9,313
Intel Xeon E3-1230 v3 @ 3.30GHz	9,312
Intel Core i7-7700T @ 2.90GHz	9,294
Intel Xeon E5-2440 v2 @ 1.90GHz	9,29
Intel Core i7-3770 @ 3.40GHz	9,279
Intel Core i7-4860HQ @ 2.40GHz	9,271
Intel Core i7-7820HQ @ 2.90GHz	9,263
Intel Xeon E5-4607 v2 @ 2.60GHz	9,234
Intel Core i3-8350K @ 4.00GHz	9,23
Intel Core i7-3940XM @ 3.00GHz	9,221
AMD Opteron 6376	9,212
Intel Xeon E5-2637 v2 @ 3.50GHz	9,2

## Załącznik nr 1 SIWZ – SOPZ – (Wydajność procesorów)

Procesory do komputerów i ich wydajność – stan na dzień 29 sierpnia 2019 r.

Źródło: [https://www.cpubenchmark.net/high\\_end\\_cpus.html](https://www.cpubenchmark.net/high_end_cpus.html).

PassMark - CPU Mark, High End CPUs - Updated 29th of August 2019

Processor	CPU Mark
Intel Xeon E3-1265L v3 @ 2.50GHz	9,197
Intel Xeon E5-2440 @ 2.40GHz	9,178
Intel Xeon E3-1240 V2 @ 3.40GHz	9,14
Intel Xeon W3690 @ 3.47GHz	9,126
Intel Xeon E3-1245 V2 @ 3.40GHz	9,124
Intel Core i7-3920XM @ 2.90GHz	9,118
Intel Core i5-7600K @ 3.80GHz	9,116
AMD Opteron 6282 SE	9,116
Intel Core i7-6820HK @ 2.70GHz	9,109
Intel Core i3-9100 @ 3.60GHz	9,094
AMD Opteron 6378	9,094
Intel Xeon E5-2630L v2 @ 2.40GHz	9,088
Intel Core i7-4790T @ 2.70GHz	9,068
AMD Ryzen 7 3750H	9,065
Intel Xeon E3-1265L v4 @ 2.30GHz	9,06
Intel Core i7-4850HQ @ 2.30GHz	9,056
Intel Core i7-990X @ 3.47GHz	9,043
AMD FX-8370 Eight-Core	9,036
Intel Xeon E5-4617 @ 2.90GHz	9,029
Intel Xeon E5-1620 @ 3.60GHz	9,027
Intel Core i3-9100F @ 3.60GHz	9,02
Intel Core i7-6700T @ 2.80GHz	9,011
Intel Xeon W3680 @ 3.33GHz	9,008
Intel Xeon E5-2430 v2 @ 2.50GHz	8,991
Intel Core i7-3820 @ 3.60GHz	8,99
Intel Xeon E5-2623 v3 @ 3.00GHz	8,988
Intel Core i7-4900MQ @ 2.80GHz	8,974
Intel Core i7-4770HQ @ 2.20GHz	8,958
Intel Xeon E5-2448L v2 @ 1.80GHz	8,954
AMD FX-8350 Eight-Core	8,952
Intel Core i5-8305G @ 2.80GHz	8,947
Intel Xeon E3-1505M v5 @ 2.80GHz	8,946
Intel Core i7-8565U @ 1.80GHz	8,932
Intel Core i7-8665U @ 1.90GHz	8,925
Intel Xeon E3-1275L v3 @ 2.70GHz	8,901
Intel Core i7-3770S @ 3.10GHz	8,894
AMD Opteron 6276	8,889
Intel Xeon X5690 @ 3.47GHz	8,872
Intel Xeon E5-2630 @ 2.30GHz	8,86
Intel Xeon E3-1230 V2 @ 3.30GHz	8,855
Intel Xeon E5-4610 v3 @ 1.70GHz	8,853

Processor	CPU Mark
Intel Xeon X5679 @ 3.20GHz	8,845
AMD Ryzen 7 PRO 2700U	8,801
Intel Core i7-7700HQ @ 2.80GHz	8,798
AMD Ryzen 5 2400GE	8,787
Intel Core i3-9300T @ 3.20GHz	8,777
Intel Core i7-6820HQ @ 2.70GHz	8,772
Intel Core i7-3840QM @ 2.80GHz	8,761
Intel Core i7-8650U @ 1.90GHz	8,756
Intel Core i7-4760HQ @ 2.10GHz	8,735
Intel Core i7-980X @ 3.33GHz	8,733
Intel Core i5-7600 @ 3.50GHz	8,729
Intel Core i3-8300 @ 3.70GHz	8,7
Intel Xeon E3-1290 @ 3.60GHz	8,699
Intel Xeon E3-1268L v5 @ 2.40GHz	8,695
Intel Xeon E5-2420 v2 @ 2.20GHz	8,691
Intel Core i7-2700K @ 3.50GHz	8,681
Intel Core i7-6700TE @ 2.40GHz	8,674
Intel Core i7-4810MQ @ 2.80GHz	8,649
Intel Core i7-980 @ 3.33GHz	8,642
Intel Xeon E5-2620 v2 @ 2.10GHz	8,634
Intel Xeon Silver 4112 @ 2.60GHz	8,611
AMD Ryzen Embedded V1807B	8,604
Intel Core i7-4770T @ 2.50GHz	8,586
Intel Core i7-6820EQ @ 2.80GHz	8,563
AMD Ryzen 5 PRO 2400GE	8,561
Intel Core i3-8100B @ 3.60GHz	8,544
Intel Xeon E5-2623 v4 @ 2.60GHz	8,506
AMD Ryzen 7 2800H	8,498
AMD Ryzen 3 2300X	8,494
Intel Core i5-8365U @ 1.60GHz	8,478
AMD Ryzen 5 3550H	8,467
Intel Xeon E3-1280 @ 3.50GHz	8,465
Intel Core i7-4800MQ @ 2.70GHz	8,443
Intel Core i7-2600K @ 3.40GHz	8,419
Intel Core i7-3820QM @ 2.70GHz	8,403
Intel Xeon E5-2643 @ 3.30GHz	8,401
Intel Xeon X5680 @ 3.33GHz	8,393
AMD Ryzen 5 1400	8,369
AMD Ryzen 5 2600H	8,366
Intel Core i7-5700HQ @ 2.70GHz	8,354
Intel Core i7-970 @ 3.20GHz	8,351



## Załącznik nr 1 SIWZ – SOPZ – (Wydajność procesorów)

Procesory do komputerów i ich wydajność – stan na dzień 29 sierpnia 2019 r.

Źródło: [https://www.cpubenchmark.net/high\\_end\\_cpus.html](https://www.cpubenchmark.net/high_end_cpus.html).

PassMark - CPU Mark, High End CPUs - Updated 29th of August 2019

Processor	CPU Mark
Intel Xeon E5-2650L @ 1.80GHz	8,332
Intel Core i7-3740QM @ 2.70GHz	8,312
Intel Core i7-8550U @ 1.80GHz	8,29
AMD Ryzen 5 PRO 2500U	8,277
Intel Xeon E5-2450L @ 1.80GHz	8,261
Intel Core i7-5700EQ @ 2.60GHz	8,239
Intel Xeon E3-1270 @ 3.40GHz	8,238
Intel Xeon E3-1275 @ 3.40GHz	8,215
Intel Xeon D-1528 @ 1.90GHz	8,21
Intel Core i7-3770T @ 2.50GHz	8,208
Intel Core i7-4750HQ @ 2.00GHz	8,199
Intel Core i5-5675C @ 3.10GHz	8,191
Intel Core i5-8350U @ 1.70GHz	8,187
Intel Core i7-2600 @ 3.40GHz	8,185
Intel Core i7-5675C @ 3.10GHz	8,164
Intel Xeon E3-1225 v6 @ 3.30GHz	8,156
AMD Ryzen 3 PRO 3200GE	8,147
Intel Xeon D-2123IT @ 2.20GHz	8,14
Intel Core i7-6700HQ @ 2.60GHz	8,133
Intel Xeon X5675 @ 3.07GHz	8,132
Intel Xeon E5-4620 @ 2.20GHz	8,127
Intel Xeon W3670 @ 3.20GHz	8,121
Intel Core i7-3720QM @ 2.60GHz	8,121
Intel Core i5-7600T @ 2.80GHz	8,111
Intel Core i7-4722HQ @ 2.40GHz	8,067
Intel Core i5-6600K @ 3.50GHz	8,061
AMD Ryzen 7 PRO 3700U	8,055
Intel Xeon D-1559 @ 1.50GHz	8,055
Intel Core i3-8300T @ 3.20GHz	8,032
AMD Ryzen 3 PRO 2200G	8,026
AMD Ryzen 3 PRO 1300	8,022
Intel Core i3-8100 @ 3.60GHz	8,018
Intel Core i5-7500 @ 3.40GHz	8,018
AMD FX-8320 Eight-Core	8,016
Intel Core i5-8265UC @ 1.60GHz	8,016
AMD Ryzen 5 3500U	8,001
Intel Core i7-4720HQ @ 2.60GHz	7,994
Intel Xeon E3-1245 @ 3.30GHz	7,991
Intel Core i5-5675R @ 3.10GHz	7,991
Intel Core i5-8265U @ 1.60GHz	7,988
Intel Core i7-4710MQ @ 2.50GHz	7,984

Processor	CPU Mark
AMD Ryzen 7 3700U	7,979
Intel Xeon E3-1240 @ 3.30GHz	7,962
AMD Ryzen 3 3200G	7,926
Intel Xeon E5-2620 @ 2.00GHz	7,899
Intel Core i7-4860EQ @ 1.80GHz	7,899
Intel Xeon E5-2630L @ 2.00GHz	7,865
Intel Xeon E5-2608L v3 @ 2.00GHz	7,857
Intel Xeon E3-1268L v3 @ 2.30GHz	7,85
Intel Xeon X5670 @ 2.93GHz	7,846
Intel Xeon E3-1225 v5 @ 3.30GHz	7,83
Intel Xeon E3-1230 @ 3.20GHz	7,825
Intel Xeon E-2104G @ 3.20GHz	7,825
AMD Ryzen 5 PRO 3500U	7,824
AMD Opteron 6328	7,813
AMD FX-8370E Eight-Core	7,806
Intel Xeon E3-1220 v5 @ 3.00GHz	7,799
Intel Core i5-4690K @ 3.50GHz	7,796
Intel Xeon E3-1240L v5 @ 2.10GHz	7,793
Intel Xeon E3-1220 v6 @ 3.00GHz	7,79
Intel Core i5-6600 @ 3.30GHz	7,78
Intel Xeon D-1537 @ 1.70GHz	7,731
Intel Core i7-4700HQ @ 2.40GHz	7,726
Intel Core i7-4710HQ @ 2.50GHz	7,722
AMD FX-8310 Eight-Core	7,722
AMD FX-8300 Eight-Core	7,721
Intel Core i3-9100T @ 3.10GHz	7,689
Intel Core i5-4690 @ 3.50GHz	7,688
Intel Core i7-4700MQ @ 2.40GHz	7,682
Intel Xeon E3-1235 @ 3.20GHz	7,68
Intel Core i5-8250U @ 1.60GHz	7,677
AMD Opteron 6238	7,673
Intel Core i5-7440HQ @ 2.80GHz	7,664
Intel Core i7-4785T @ 2.20GHz	7,637
Intel Core i5-4670K @ 3.40GHz	7,636
AMD FX-8150 Eight-Core	7,634
AMD Ryzen 3 PRO 2200GE	7,613
Intel Core i7-3630QM @ 2.40GHz	7,581
Intel Xeon X5660 @ 2.80GHz	7,569
Intel Xeon E3-1226 v3 @ 3.30GHz	7,56
AMD FX-8320E Eight-Core	7,55
Intel Core i7-4712HQ @ 2.30GHz	7,529

## Załącznik nr 1 SIWZ – SOPZ – (Wydajność procesorów)

Procesory do komputerów i ich wydajność – stan na dzień 29 sierpnia 2019 r.

Źródło: [https://www.cpubenchmark.net/high\\_end\\_cpus.html](https://www.cpubenchmark.net/high_end_cpus.html).

PassMark - CPU Mark, High End CPUs - Updated 29th of August 2019

Processor	CPU Mark
AMD Ryzen 3 1300X	7,524
Intel Xeon E3-1240L v3 @ 2.00GHz	7,513
AMD Opteron 6366 HE	7,503
Intel Core i5-5575R @ 2.80GHz	7,484
Intel Xeon W-2104 @ 3.20GHz	7,475
Intel Core i5-4670 @ 3.40GHz	7,465
Intel Core i7-3615QE @ 2.30GHz	7,458
Intel Core i7-3610QM @ 2.30GHz	7,458
Intel Xeon E3-1265L V2 @ 2.50GHz	7,455
Intel Xeon E5-1410 v2 @ 2.80GHz	7,43
Intel Core i5-4690S @ 3.20GHz	7,426
Intel Xeon E5-2648L @ 1.80GHz	7,426
Intel Core i7-4702HQ @ 2.20GHz	7,425
Intel Core i5-4670R @ 3.00GHz	7,419
Intel Core i5-4670K CPT @ 3.40GHz	7,411
AMD Ryzen 7 2700U	7,397
Intel Core i5-4670S @ 3.10GHz	7,386
Intel Core i7-3615QM @ 2.30GHz	7,385
Intel Xeon X5650 @ 2.67GHz	7,362
AMD Ryzen 5 2500U	7,357
Intel Core i5-6600T @ 2.70GHz	7,342
Intel Core i3-8100T @ 3.10GHz	7,342
Intel Core i5-4590 @ 3.30GHz	7,335
Intel Core i5-7400 @ 3.00GHz	7,317
AMD Ryzen 3 2200G	7,315
Intel Xeon E5-1410 @ 2.80GHz	7,312
Intel Core i7-4765T @ 2.00GHz	7,302
Intel Xeon E5-2430L @ 2.00GHz	7,269
Intel Xeon E5-1607 v4 @ 3.10GHz	7,256
Intel Core i5-6500 @ 3.20GHz	7,251
Intel Xeon E3-1225 v3 @ 3.20GHz	7,241
Intel Xeon E3-1230L v3 @ 1.80GHz	7,231
Intel Core i7-2960XM @ 2.70GHz	7,224
Intel Core i7-4712MQ @ 2.30GHz	7,192
Intel Core i7-4700EQ @ 2.40GHz	7,18
Intel Core i5-3570K @ 3.40GHz	7,177
Intel Xeon E3-1220 v3 @ 3.10GHz	7,176
Intel Core i5-4570 @ 3.20GHz	7,152
Intel Core i5-3570 @ 3.40GHz	7,136
Intel Core i7-4702MQ @ 2.20GHz	7,125
Intel Core i5-6402P @ 2.80GHz	7,124

Processor	CPU Mark
AMD Ryzen 3 PRO 2300U	7,092
Intel Core i7-2600S @ 2.80GHz	7,091
Intel Xeon X5687 @ 3.60GHz	7,076
AMD Ryzen 3 PRO 1200	7,075
Intel Core i5-4590S @ 3.00GHz	7,069
Intel Xeon E5-2420 @ 1.90GHz	7,045
Intel Xeon E5-1607 v3 @ 3.10GHz	7,039
Intel Core i5-7500T @ 2.70GHz	7,004
AMD FX-6350 Six-Core	7,002
Intel Core i7-2920XM @ 2.50GHz	6,998
Intel Xeon D-1521 @ 2.40GHz	6,98
AMD Ryzen 3 2200GE	6,976
Intel Core i5-3550 @ 3.30GHz	6,966
Intel Core i7-2860QM @ 2.50GHz	6,96
Intel Xeon W-2102 @ 2.90GHz	6,954
Intel Xeon X5677 @ 3.47GHz	6,951
Intel Xeon Platinum 8151 @ 3.40GHz	6,947
Intel Xeon E3-1225 V2 @ 3.20GHz	6,947
Intel Xeon E5649 @ 2.53GHz	6,936
Intel Core i7-3632QM @ 2.20GHz	6,93
AMD Ryzen Embedded V1605B	6,924
AMD FX-6330 Six-Core	6,916
Intel Core i5-3550S @ 3.00GHz	6,91
Intel Xeon E5-2609 v4 @ 1.70GHz	6,905